SUPERFUND PRELIMINARY CLOSE OUT REPORT
Rockaway Township Wells Superfund Site
Rockaway and Denville Townships,
Morris County, New Jersey

September 2005

Prepared By

U.S. Environmental Protection Agency
Region II
290 Broadway
New York, New York 10007

Superfund Preliminary Close Out Report
Rockaway Township Wells Superfund Site
Rockaway and Denville Townships,
Morris County, New Jersey

I. INTRODUCTION

The U.S. Environmental Protection Agency (EPA) has determined that all remedial construction activities at the Rockaway Township Wells Superfund site have been completed in accordance with *Close Out Procedures for National Priorities List Sites* (OSWER Directive 9320.2-09A-P, January 2000). EPA accompanied the New Jersey Department of Environmental Protection (NJDEP) during a pre-final inspection on July 7, 2005, of the construction of the ground water extraction and soil vapor extraction (SVE) remedies at this Site, and determined that the remedy has been constructed in accordance with both the EPA and NJDEP-approved Records of Decision (RODs) and the remedial designs (RDs). Activities necessary to achieve performance standards have been initiated.

II. SUMMARY OF SITE CONDITIONS

Background

The Rockaway Township Wells Site (also known as the Rockaway Township Wellfield Contamination Site) is located in both Rockaway and Denville Townships in Morris County, New Jersey. Rockaway and Denville Townships are situated in the center of Morris County, approximately 10 miles north of Morristown and 20 miles northwest of Newark in the north-central portion of the state.

The Site, located immediately north of Interstate 80, is an area of approximately 185 acres, which lies in the center of a Y-shaped valley in an otherwise hilly area of the New Jersey Highlands. The area has been developed by commercial businesses and light industries including service stations, restaurants, hotels, plastic manufacturers, truck/transit companies, and commercial office complexes. The Denville Technical Park (DTP) is located within the Site.

Near the center of the Site are the Rockaway Township Wells, which serves as the source of potable water for approximately 14,000 residents in Rockaway Township. The Wellfield originally consisted of municipal production wells (PWs) PW4, PW6 and PW7 which are located on the northeast side of Green Pond Road, south

of White Meadow Brook, and west of the New Jersey Transit railroad tracks. In 1983, PW4 was sealed. At present, PW6 and PW7 are intermittently pumped at an average rate of approximately 1.3 million gallons per day, and a maximum of approximately 1.8 million gallons per day.

The municipal wells are situated in glacial sediments, which have been deposited in a large bedrock valley. The "valley fill" has a thickness of up to 200 feet near the center of the Beaver Brook valley and primarily consists of sands and gravels, with abundant cobbles and boulders. Within the sands and gravels, prominent clay lenses and boulder zones occur. The municipal wells are screened in sand and gravel deposits at a depth of 130 feet to 160 feet below the ground surface.

Water samples collected from the Rockaway Township Wells in late 1979 and early 1980 indicated the presence of trichloroethene (TCE) and other volatile organic compounds (VOCs). The Township installed an activated carbon adsorption treatment system in response to this contamination. In October 1980, the treated water developed an unpleasant taste and odor. Analysis showed it to be contaminated with di-isopropyl ether (DIPE) and methyl tertiary butyl ether (MTBE), both gasoline additives. On October 10, 1980, the Township declared a water emergency and advised residents to avoid consumption of the water until an air stripping unit was installed for additional treatment of the water prior to distribution. An air stripping unit was subsequently installed. Currently, Rockaway Township uses only an air stripping unit for water treatment. The water treated with the air stripping unit meets the New Jersey and federal Safe Drinking Water Act requirements without the need for supplementary treatment. However, to ensure a safe drinking water supply, Rockaway Township uses the carbon adsorption treatment system whenever the air stripping unit is taken out of operation for maintenance or repair.

In 1982, NJDEP requested that EPA consider this Site for inclusion on the National Priorities List (NPL) of Superfund sites. EPA placed the Site on the NPL on September 1, 1983. NJDEP conducted an area-wide industrial survey to identify potential sources of the contamination. The survey, along with additional information, revealed that petroleum hydrocarbon products were present in the ground water at two gas stations located on Green Pond Road to the west of the Wellfield, and that chlorinated VOCs were present in ground water at the DTP.

In June 1986, NJDEP issued Directives to Morton Thiokol Incorporated (then owner of the DTP property), Shell Oil Company,

and the Town and Country Gas Station (the owners of the two gas stations) requiring payment to NJDEP to conduct a remedial investigation/feasibility study (RI/FS), and payment to Rockaway Township for the operation and maintenance of the air stripping unit. The Town and Country Gas Station never complied with the Directive.

NJDEP completed an initial RI in November 1988. Based on the information from the 1988 RI Report, NJDEP determined that additional studies were necessary and began a Phase II RI. The Phase II RI Report was finalized in September 1992 and an FS Report was finalized in December 1992.

From April 1988 through April 1995, Thiokol Corporation and Shell Oil Company split the operation and maintenance costs of the air stripping unit. In 1995, NJDEP notified Shell Oil Company that it had satisfied its obligation since gasoline-related contaminants were no longer being detected in the Rockaway Township Wells. Alliant Techsystems (ATK) (a successor to Thiokol) continues to pay the operation and maintenance costs of the air stripping unit.

Based on the RI and FS Reports, EPA signed a ROD on October 5, 1993. The major components of the selected remedy included:

- Extraction and treatment of contaminated ground water in DTP and re-injection or utilization of the treated water for potable purposes,
- Monitoring to ensure the effectiveness of the remedy, and
- Replacement of the deteriorated air stripping unit on the Rockaway Township Wells.

In addition, the 1993 ROD stated that subsequent actions might be necessary to address contaminant sources. On April 20, 1994, an Administrative Consent Order (ACO) was signed between NJDEP and Thiokol which called for Thiokol to replace the air stripper. On March 13, 1996, Thiokol entered into a second ACO with NJDEP to implement the ground water remedy. In 1998, Thiokol's contractor Conestoga-Rovers & Associates (CRA) prepared a ground water Remedial Action Work Plan which outlined the pre-design activities and design work required to implement the ground water remedial action at DTP.

In 1997, a soil RI was conducted by CRA for Thiokol to investigate three areas considered to be potential sources for the ground water contamination. In 1999, Thiokol was renamed Cordant Technologies, Inc. (Cordant). Cordant continued utilizing CRA's services and prepared a soil RI/FS report in 1999 that evaluated four alternatives for remediating impacted soils at DTP.

In 2000, Alcoa Corporation acquired Cordant and assumed responsibility for remedial work at the site. In April 2001, ATK purchased from Alcoa, the Thiokol portion of Cordant's assets and assumed responsibility for the environmental liabilities at the Site.

To prevent potential exposure to contaminated ground water, a classification exception area was implemented by NJDEP at the site in November 2000. These restrictions will remain in place until the contaminated ground water meets the cleanup criteria.

In October 2002, NJDEP signed a ROD for the contaminated soils at DTP. The ROD selected soil vapor extraction (SVE) to remove contaminants from the soil in two areas. The major components of the selected 2002 source remedy include the following:

- SVE of volatile organic contaminants in both the Former Degreaser Area and the Former Underground Storage Tank (UST) Area,

- Treatment, if required, for the extracted vapors prior to release to the atmosphere, and

- Operation of the SVE system for approximately 3 to 5 years in order to attain the New Jersey Impact to Ground Water Soil Cleanup Criteria.

In addition, the 2002 ROD also included a change to the 1993 ROD regarding the discharge of the treated ground water from the DTP portion of the Site. The treated ground water is discharged to the surface water (Beaver Brook) instead of being re-injected or reused as a potable source.

Remedial Construction Activities

In 2003, ATK submitted a draft soil Remedial Action Work Plan which outlined the pre-design activities and design work required to implement the soil remediation at DTP. At the request of NJDEP, the soil Work Plan was amended in 2004 to also include the ground water remediation. This Work Plan was approved by NJDEP on September 8, 2004.

On September 21, 2004, ATK awarded a contract to CRA for the implementation of the construction of the ground water and SVE remediation systems. CRA sub-contracted the construction activities to More-Trench Inc. who began construction of both remedies on September 22, 2004. Operation of the ground water extraction system began on June 6, 2005 and the operation of the SVE system began on June 7, 2005. Operation and monitoring of

both systems is being conducted by CRA for ATK. Weekly progress summaries for both systems submitted to NJDEP by the ATK indicate that the systems are operating as intended.

Ground water Remedy

The Site ground water remedy consists of three ground water extraction wells constructed in DTP to provide containment of impacted site ground water and prevent the further migration of the dissolved VOCs to the Rockaway Township Wellfield. The extracted ground water is pumped via an underground forcemain to a 900 square foot masonry building located at the rear (south) side of the Site. The extracted ground water is treated in this building using a tray-style air stripper to remove VOCs from the water prior to discharge to an existing storm water drainage pipe that flows to a wetland area adjacent to Beaver Brook. The treated effluent is discharged in accordance with the New Jersey Pollutant Discharge Elimination System (NJPDES) permit for remediation sites. The air from the ground water treatment system (air stripper) is discharged to the atmosphere in accordance with an NJDEP air permit.

Soil Remedy

This remedy was designed to directly address the two soil source areas of the ground water contamination at DTP. Remediation is conducted using SVE. In the Former Degreaser Area, a single SVE well was constructed to extract VOC vapors in the area of two former degreasers. In the Former Waste Oil UST Area, 12 SVE wells were installed to extract VOC vapors from the soil. The vapors from the SVE wells are conveyed through an underground forcemain, primarily beneath the paved parking areas, to the same building where the ground water treatment system is located. The vapors are then sent to a vapor phase treatment system prior to discharge to the atmosphere under an NJDEP air permit. There is a separate control room within the treatment building that houses the controls for both systems. Both treatment systems are capable of being remotely monitored and controlled.

III. DEMONSTRATION OF CLEANUP ACTIVITY QUALITY ASSURANCE/QUALITY CONTROL

Based on information provided to EPA by NJDEP and the PRP, construction activities at the Site were determined to be consistent with both RODs and the RD plans and specifications. A representative from CRA was present on-site during all construction activities to assure the work conducted by More-Trench Inc. was performed in accordance with the contract plans and specifications. The PRP's construction contractor adhered to

the NJDEP approved Quality Assurance Project Plan and quality assurance and quality control (QA/QC) procedures and protocols incorporated into the RD plans. All confirmatory inspections, independent testing, audits and evaluations of materials and workmanship were performed in accordance with the construction drawings, technical specifications, and QA/QC. All procedures and protocols were followed for ground water, soil, and air sample collection and analysis during the RA.

IV. ACTIVITIES AND SCHEDULE FOR SITE COMPLETION

The following activities will be completed according to the following schedule:

Task	Estimated Completion	Responsible Organization
Approval of Preliminary Operation and Maintenance Plan (O&M) for Ground Water Extraction System and Soil Vapor Extraction System	November 2005	NJDEP
Approval of Long-term Monitoring Plan for Ground Water Extraction System and Soil Vapor Extraction System	December 2005	NJDEP
Approval of Final O&M for Ground Water Extraction System and Soil Vapor Extraction System	August 2006	NJDEP
Completion of O&M for Soil Vapor Extraction System	2008	NJDEP
First Five Year Review	September 2010	EPA/NJDEP
Second Five Year Review	September 2015	EPA/NJDEP
Completion of O&M for Ground Water Extraction System	2015	NJDEP

Approval of Ground Water Extraction System and Soil Vapor Extraction System Final RA Report	2015	NJDEP
Long-term Monitoring	Quarterly to 2010	NJDEP
Long-term Monitoring	Annually 2010 to 2015	NJDEP
Approve Final Closeout Report	2016	NJDEP/EPA
NPL Deletion	2016	NJDEP/EPA

V. SUMMARY OF REMEDIATION COSTS

The October 1993 ROD estimated that the capital and operation and maintenance costs for the ground water extraction remedy would be $991,000 and $661,149, respectively, making the present worth cost approximately $9,848,895. The October 2002 ROD estimated that the capital and operation and maintenance costs for the SVE system would be $477,000 and $55,000, respectively, making the present worth cost approximately $721,000. ATK paid for the construction of both remedies. According to ATK, the total construction costs for both remedies was $1.6 million. ATK's estimated capital and operation and maintenance costs for the groundwater extraction system and the soil vapor extraction system are $200,000 per year.

VI. FIVE-YEAR REVIEW

Upon completion of the remedial activities, hazardous substances will not remain on-site above levels that would prevent unlimited use without restriction. It is the policy of EPA to conduct five year reviews when remedial activities, including monitoring, will continue for more than five years. The first five-year review will be completed before September 2010.

William Nicholas Cabe

George Pavlou, Director
Emergency & Remedial Response Division

9-21-05
Date